

Engineering courses in trouble as TEC looks at double diploma plan

by Sue Reid

Higher national diploma courses in engineering are "limping along" with only a handful of students are in jeopardy, Dr. Frank Dickinson, director of North Staffordshire Polytechnic, has warned.

He told a conference at Lancaster Polytechnic last week, which was discussing the future of the HND courses in the light of the establishment of the Technician Education Council, that these courses would not survive in the future.

The statistics showed a remarkable number of weak HND courses in the country and it had to be accepted that the present HND courses were "limping along" with seven or eight students would not be able to exist indefinitely, Dr. Dickinson said.

If the TEC did take over responsibility for the HND then it should not be believed that all the colleges at present running courses would be allowed to establish TEC higher diploma courses in the future. Some colleges would inevitably be disappointed.

Dr. Dickinson, chairman of the joint committee for national certificates and diplomas in mechanical, production and aeronautical engineering, and chairman of one of the main TEC programme committees, went on to discuss the possibility of two distinct higher diploma levels being introduced.

The TEC was concerned with technical education and not with professional education. It might be necessary to design a course for the particular needs of the school-leaver who wanted to start his full-time education in engineering by the higher diploma route.

Dr. Dickinson said that TEC had only just started to look at the different needs of students, and he urged the conference delegates, representing the education and industrial world, to make their views known about the kind of high diploma needed in the future.

He added that the modular higher diploma courses proposed by TEC would suit the needs of the higher certificate entrant, who by taking certain broadening modules could gain the higher diploma, but this modular arrangement was not suitable for the A-level entrant.

If a higher diploma course was introduced for the A-level entrant, then it should be run on a group basis with a curriculum which everyone followed.

Dr. Dickinson rejected a suggestion that the present HND could be linked or changed into the Diploma in Higher Education. The DHE was a two A-level entry course, while the HND entered for students entering with one A-level.

Later Mr. Nello Raine, the new chairman of TEC, criticised industry's lack of interest in TEC. He said he was absolutely appalled "at the lack of industrial input into TEC and called for more response from industrialists. The council had already spent between £300,000 and £500,000 and now wanted to hear from industry, the specific area for which TEC had been set up to provide technicians.

Mr. Francis Haurott, chief officer of TEC, said the proposed higher diploma had to be constructed as a terminal qualification in its own right, but also as an "on the way" award for students hoping to gain a degree or chartered qualification. He hoped that it would have the same transferability to a degree course as the present HND.

The TEC programme committees would be validating bodies for the higher diploma courses, and intended to produce guidelines and standard material for college use. But colleges could put up alternative schemes, and it was expected that at both the higher certificate and higher diploma level there would be a large proportion of college designed units.

Dr. Dan Merritt, principal lecturer in the department of mechanical engineering at Lancaster Polytechnic, said that the student intake on to HND courses in electrical, mechanical and production engineering was declining. He gave figures showing that 2,242 students entered HND engineering courses in the autumn of 1968, but by the autumn of 1974 the total intake had fallen to 1,457.

But, he added, the trends in the HND engineering courses were different to those being experienced in engineering degree courses, where figures were also falling.

Concern was expressed about the future of the HND, Mr. C. T. Butler, of Trent Polytechnic said that the present educational values of the HND course should be retained in the proposed higher diploma, and warned that it would be wrong for TEC to confuse change with improvement.

Mr. Jim Deboe, group training manager of Baker Perkins Holdings of Peterborough, said he hoped the HND type of course would continue. Industry was desperately concerned about the supply of technicians, and many of them did the work of professional engineers. The courses proposed by TEC would have to reflect the needs of society and industry.

A glimpse into the future of forecasting studies

by David Walker

Predicting the future—once the job of gamblers, prophets and astrologers—is fast becoming a fully fledged academic specialism. But a recent publication by the Social Science Research Council has claimed that forecasting could contribute to a new unification of the social sciences because it must involve all sorts of social science skills and knowledge.

The editors of *Progress and Problems in Social Forecasting* predict: "forecasting studies may be one of those areas where imaginative policies adopted at an early stage by the research councils could not only make a significant long-term contribution to policy formulation and debate but could conceivably contribute to attaining an even more difficult objective—a greater degree of integration within the social sciences and a return to some of the older ideas of universalism embodied in the original concept of a university."

In their introduction to the book, which is a collection of papers based on seminars run by the SSRC since 1972, Professors Marjorie Jahoda and Christopher Freeman and Mr. Ian Miles argue that the new art of forecasting is still diffuse. Some social science disciplines contribute good and useful methods for social forecasting, others provide strong concepts. They say that social forecasting could be organized in at least three different ways.

It could rest within a conventional discipline such as economics. For example, the recent predictions about unemployment wage levels and exports by the National Institute for Social and Economic Research is underpinned by straight economic theory. Alternatively social forecasting would revolve around the use of a particular technique such as computer simulation modelling or attitude surveys.

The third possibility would be to focus the subject around problems of government and public policy using the range of methods and academic disciplines most appropriate to the particular issues.

The authors consider that social forecasting would not fall neatly into any of the categories. "Whether we consider big industrial investment decisions with major social and environmental implications, or even wider problems, such as the future of urban transport system, or the energy

policy options open to governments, it is hard to reach a conclusion that few of them fit neatly into traditional disciplinary pigeon-holes."

However, the interdisciplinary work that was needed posed problems for the research councils. Individual researchers and teams were affected, too, because they faced the need for satisfactory communications and achieving a real synergy as opposed to the occasional exchange of ideas.

"The barriers are formidable, reinforced by all the weight of traditional publications, patterns, modes of finance and administrative structures affecting the research councils and the universities themselves."

"The difficulties are well known but the need is also increasingly evident. If we consider, for example, the evolution of the social sciences since the war, then a feature immediately springs to the attention—the number of emerging, embryonic new disciplines and disciplinary hybrids which are becoming established: 'management studies', 'environmental studies', 'industrial sociology', 'science policy studies', 'urban studies'. These new developments suggest that many of the most of the policy problems confronting modern industries are to some degree interdisciplinary rather than the arbitrary boundaries drawn by an older stage in the history of the sciences are in the process of dissolving."

"The pressures towards a form of research collaboration between disciplines are also evident. For example the Centre for Environmental Studies, or within government, the Programmes Analysis Unit, and the Central Policy Unit, clearly, both industrial and government policies are being influenced in this direction."

The book contains papers by Professor Harold Perkin on the history of social forecasting, Professor David Glass on population forecasting, Professor Harry Johnson on economic forecasting and Professor Michael Chisholm on geographical forecasting. The book is published by Progress and Problems in Social Forecasting edited by Christopher Freeman, Marjorie Jahoda and Ian Miles, SSRC £1.25p.

Sociologists with an eye on the state

by David Walker

Sociologists will be paying more attention to the control of resources and the power of the state as a result of their concern about jobs and money for research, Professor Sheila Allen predicted in her recent presidential address to the British Sociological Association annual meeting in Manchester.

She added that in the 1960s, when "interpersonal elements" were important in getting jobs, sociologists had extrapolated these into their analysis of society.

Professor Allen, of Bradford University, told the BSA that they had to show the relevance of the knowledge they had built up during the expansion in the 1960s. To do this they had to reform the PhD system and introduce a "research career". The sociology PhD was a waste of effort and talent, because it rested on the outdated idea that all research had to be original and in thesis form.

Taking up this point elsewhere in the conference Professor Hilary Rose, Professor Allen's colleague at Bradford, said that sociology was not a united profession as long as there was a hierarchy of research managers and detail labourers—many of them women—leading a nomadic existence.

The central theme of this year's conference was the sociological analysis of health and illness. In the full sessions, what was billed as a confrontation between the rival schools of ethnomethodology and traditional social theory took place. Professor Roy Turner, of the University of British Columbia, and Mr. Anthony Giddens, of Cambridge, tried to answer what Professor David Lockwood, of Essex University, called the question posed whenever two or three sociologists gather together: whether sociology?

Mr. Giddens turned out to be less practical than had been expected, however, and his account of what sociology could do. The break between sociology and the methods of the natural sciences was complete, he said, since sociology dealt with language and belief of people which could not be falsified in the same way as a statement about the natural world.

Professor Turner eschewed the label of ethnomethodologist, and argued that sociology was not about finding answers to questions. He emphasized the virtues of film and video-tape in teaching sociology.



A customs officer is tarred and feathered in a painting on show at the 1776 exhibition in the National Maritime Museum at Greenwich.

Exam reforms attack at NUT

by Sue Cameron

The "educational old guard" was strongly attacked at the annual conference of the National Union of Teachers in Scarborough this week, for fighting proposed examination reforms.

Mr. Fred Jarvis, general secretary of the NUT, predicted "a major battle" on the proposals for a common examination at 16-plus and for the establishment of the Certificate of Extended Education.

"If you want to see how the educational old guard goes into action, just watch the manoeuvres of many universities and GCE boards on examination reform. Hell hath no fury like a vested examination interest when it sees its powers threatened. This is how the old guard are reacting now to the proposals that the Schools Council will be discussing this summer."

"Let us make no mistake as to what the basic issues are. The educational establishment, having insisted on feasibility studies, are seeking delaying tactics now that

studies in the schools have clearly demonstrated that a common examination is not only feasible but desirable.

"This is not just a challenge to the work of thought and research which has been undertaken through the agency of the Schools Council. Even more important is the challenge to the integrity, judgement and professional competence of the teaching profession."

"This is what is being called into question and not by those involved in the education of the nation's children but by those who sit in judgement from afar."

Mr. Jarvis pointed out that the proposed examination reforms have first been mooted more than 10 years ago. Nobody could claim they were being rushed through at breakneck speed. The reforms were vital to the nation's children, and it was imperative they should be approved by the Schools Council governors and implemented by the education secretary—TES.

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Union threat as future of Fircroft is decided

by Sue Reid

The fate of the principal and academic staff of Fircroft Adult Education College, Birmingham, whose dismissal has been strongly recommended by a Government committee, will be decided within the next few weeks.

A committee of inquiry, set up after the college's partial closure last year following serious student unrest, has called for the dismissal of the tutors for their part in jeopardizing the future of the college and named Mr. Tony Corfield, the principal, as a weak man and "wrong for the job."

The trustees and governors of the college are to discuss the committee's report, published last week, early next month, and initially any course of action will rest with them. But the threat to the four tutors has already been condemned by the NUS and the Birmingham branch of the Association of Scientific, Technical and Managerial Staffs, to which they belong.

The outspoken report, which has called for the reopening of the college for full-time courses from September, blames the adult students for putting forward "outrageous" demands, the governors for being elderly and ineffective, and the tutors for entering the arena of confrontation and acting "in concert" with the students.

It goes on: "The tutors must share with Mr. Corfield, the major part of the blame for what happened at Fircroft. If any one of them stayed it would be inauspicious for the reopening of the college."

But Mr. Harry Newton, senior tutor, said this week that his union, the ASTMS, would fight any proposals to dismiss him or his colleagues Mr. Terry Murphy, Mr. Trevor Blackwell and Mr. Bob Milson. It would, if necessary, "black" the college.

Similar support for the tutors came from the NUS.

Fircroft was set up in 1909 by the Cadbury family. Last March the students went on strike and later introduced their own education programme, excluding the principal.

The committee of inquiry, set up under the chairmanship of Mr. Andrew Leggatt, QC, says that Mr. Christopher Cadbury, chairman of the governors, was vulnerable to gibes about paternalism and the students proved uncontrollable by the governors.

The report recommends that in the future the education programme should be controlled by an academic board on which the principal, the tutors, and representatives of the students, should serve. It adds that the students should be given the maximum of participation but not control.

New register shows research strengths in Commonwealth

A register of Commonwealth universities research strengths is to be published this year by the Association of Commonwealth Universities.

The publication of the *Register of Research Strengths of Universities in the Developing Countries of the Commonwealth* follows a report on the Commonwealth scholarship and fellowship plan presented at the Commonwealth Education Conference last year in London. It urged an increase in the academic cross-fertilization between developing countries, stressing the need to publicize their university facilities.

An award, funded by *The Times Higher Education Supplement* and the Association of Commonwealth Universities, to enable a university applicant from a

developing country to obtain experience and training in another such country, has gone this year to Mr. P. L. K. Fraser of Fourah Bay College of the University of Sierra Leone.

Mr. Fraser will visit universities in East and West Africa to study the buildings, use, projection of income and development schemes, programming of building extensions, determination of building priorities, and other related subjects.

In 1974/75 292 students from developing countries obtained awards to study in the United Kingdom under the Commonwealth scholarship and fellowship plan, says the annual report. With 364 award holders already in the country the association has exceeded its target of 500 awards.

Most Oxford cash goes on wages

Nearly 70 per cent of total spending by Oxford University last year went on staff salaries, wages, and in departments such as art and social studies the figure was as high as 95 per cent. Nearly two thirds of the Bodleian Library's budget went on staff costs, and only 15 per cent on books.

These figures, taken from the university's abstract of accounts in the official *Gazette*, published recently, apply to non-research grant spending, but even including income derived from research the proportion of the university's income swallowed up by salaries remains high. It was about 1 per cent more than in 1973-74.

In 1975, the university's total income was £23,249,000, giving it a surplus at the end of the year of £5,772,000, some £470,000 less than in 1973-74. The accounts reveal that Oxford's wealthiest colleges were, in descending order: St. John's, Christ Church, All Souls, anderton. Among its poorest were the women's colleges, Hertford, Worcester, and Keble.

Through the university's financial exchange arrangements, the poorest 10 colleges received £580,000 in grants from the wealthier ones. The value of university funds at the end of last July was £27,700,000, the bulk of which was in what Oxford calls its "trust pool"—money held for particular purposes which is not at the university's free disposal. This includes small bequests, scholarships, chairs, such as the Gladstone Professorship of Government and Public Administration, and large-scale endowments.

Absorbing question

The number of social science graduates doubled between 1961 and 1971, and is expected to grow by another 60 per cent by the early 1980s, according to a study published by the Society for Research into Higher Education last week. "This has led to an increasing proportion of social scientists in the young age groups, many of them with higher degrees, and the authors warn that absorbing such highly qualified graduates into the labour force is a major economic problem. Social Scientists at Work by Adam Worsley, David Webster and Gerald Williams, SPRIH, £3.60.

Polytechnic enrolments

SUMMARY OF POLYTECHNIC ENROLMENTS IN NOVEMBER 1975

Polytechnic	Full-time	Sandwich	Part-time day and evening
Birmingham	4147	769	3617
Brighton	1806	439	974
Bristol	2481	761	1049
Hatfield	623	1702	126
Huddersfield	1777	900	1868
Kingston			404
Lancaster	2860	1130	716
Leeds	1938	1610	605
Leicester	2809	1276	1837
Liverpool	2537	846	977
Nottingham	2381	1447	910
London:			
Central	3180	290	699
City	2239	254	3476
East London	1317	1890	589
North	1317	216	1003
North East	2695	1322	631
South East	1456	1788	752
Thames	927	942	874
Manchester	4007	757	2650
Newcastle	3028	672	1218
North Staffs	1358	837	1658
Oxford	1588	370	857
Plymouth	1438	131	98
Portsmouth	3142	1381	655
Preston	2070	421	761
Sheffield	1328	2201	761
Sunderland	2214	512	487
Torquay	896	578	54
Torquay	3161	2336	2499
Wales	1758	132	123
Wolverhampton		367	406
All enrolments	67944	30031	49411
Enrolments from new entrants	5683	—	323
Basis for comparison with Nov. 1974	62261	30031	49088
% change since 1974	+ 11%	+ 7%	+ 4%

* Total likely to be increased at least 5% by enrolments on courses commencing after November 1975.

Board for adult education needed to guard part-timers' interests, UCAE told

by Frances Gibb

The interests of adult education and the rest of part-time university education should be catered for by one body, Sir Dennis Christopher, vice-chancellor and warden of Durham University, proposed last week.

He told the annual conference of the Universities' Council for Adult Education at Durham: "While there is no one body to represent their collective interests, the part-timers are bound to go on."

Instead of the existing "board" or "delegation" for adult education, universities could set up a board for part-time studies as a whole, responsible for all forms of post-graduate, post-experience and other part-time courses, he said. Such a board might persuade the public that the universities took part-time study seriously, which would help the universities, and in the long-run the students and those providing for them. It might also make adult education departments less isolated from the rest of the university.

Other arguments were that adult education and other part-time work needed the same services, such as tapes, or printed materials, and that the rest of the university would benefit from close contact with the adult education department, the "most skilled practitioners of the art of teaching that the university has."

But there were strong arguments against the proposal. Sir Benjamin said, Current anomalies in the way courses were financed would be

more obvious and therefore harder to defend. There was also the risk that the adult education students would come off worst, because their needs were the most removed from the ordinary spectrum of university activity.

Even in terms of administrative efficiency there was a counter-argument: universities were becoming large and structurally diffuse. Fairly small departments, each with its own closely defined task, might prove the most efficient.

Sir Dennis Christopher said that the universities, and not the polytechnics, were the centres for part-time higher education in Britain. Most first degree part-timers were in the Open University, and most of the 21,000 part-time post-graduates were in the other British universities. Of these, four fifths were candidates for higher degrees. The comparable full-time figures were nearly 35,000 reading for higher degrees and nearly 5,000 for other qualifications.

It would be beneficial if all universities were organized in such a way that the interests of part-timers were looked after and received their fair share of resources, he said.

What universities felt they had available to spend on part-time students was closely related to what the University Grants Committee provided on their account. In 1972/73 (the last year for which full figures are available), the total sum available from the UGC for part-timers was roughly £26m, about 65 per cent of the part-timers were postgraduates, so the part-timers' element in the

block grant amounted to about £750 per head a year.

The figures were very rough but they showed that from the public's point of view part-timers represented a very good bargain. They receive very little support from public funds and the cost of their instruction and supervision was much less in terms of degrees awarded.

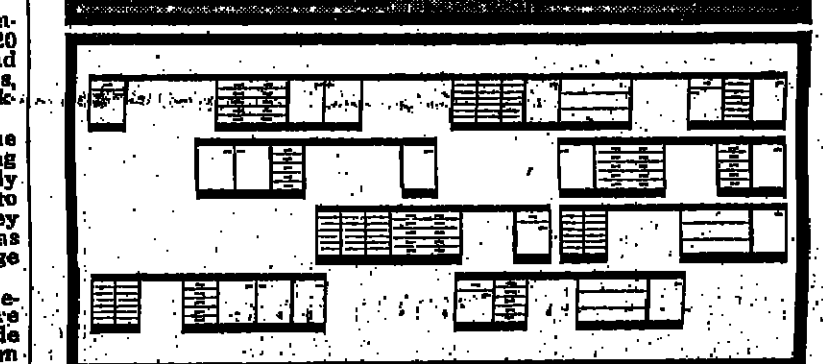
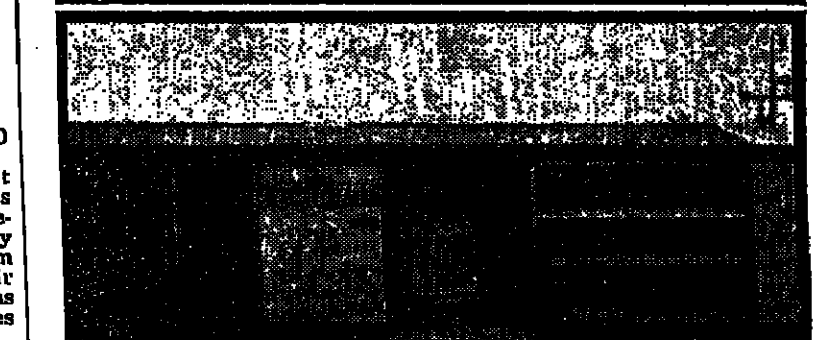
Other topics discussed at the conference which was attended by 120 lecturers, were evaluation and assessment of courses and students, and the reports of the UCAE working party on industrial studies.

Conference members rejected the recommendations of the working party on industrial studies, chiefly on the grounds that they seemed to contain a request for more money for industrial studies which, it was felt, might work to the disadvantage of other areas of adult education.

Referring to criticism that the report and recommendations were more concerned with the trade union side of industrial studies than the management side, Mr. Norman Dees, director of the UCAE, said that the report had stemmed directly from what was going on in adult education. He said, "Survivings about 'bias' should be related to the departments themselves rather than the report."

A small working group was set up to reconsider the recommendations of the report, but the main part of it was accepted. It states that universities should be encouraged to develop the special contribution they can make to trade union studies, combining teaching and research.

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Frances Hill reports from the UTE conference on 'narrative'

Experimental fiction versus traditional

The contrasting characteristics and relative merits of traditional and 'experimental' fiction emerged as one of the major topics dealt with by speakers at the University Teachers of English conference on narrative this month.

Three of the conference's 10 papers were addressed specifically to attempting to define the fundamental contrasts between the two narrative modes, and others touched on the subject as part of various wider issues. C. Wilson Knight, formerly professor of English at Leeds University, made a plea for simplicity and lucidity on the narrative 'surface' combined with complexity and 'mystery' within; Iris Murdoch, the novelist, stressed the importance of well-realised characters together with a pervading 'moral consciousness' for the success of most novels.

The three speakers who took as their theme the contrast between 'realistic' and 'symbolist' fiction offered, between them, four sets of conceptual frameworks within which these contrasts can be explored and defined.

Gabriel Jacquot, of Sussex University, used 'great lines, fragments and spirals' as metaphors for the narrative modes of the traditional novel—with its 'linear' progression through fictional time—and two forms of 'experimental' fiction. In the first, he called it 'fragmented blocks' of narrative exist in a fragmented form, 'side by side' and in T. S. Eliot's *Waste Land* and Proust's *A la Recherche du Temps Perdu* themes and plot wind round on themselves in a 'spiralling' pattern.

David Lodge, of Birmingham University, drew on the work of Roland Barthes, the French structuralist, to suggest that a useful distinction can be drawn between 'readable' and 'writerly' fiction. 'Readably' texts, which include most 'pro-modern' literature—are based on a logical and temporal order which corresponds to the sequences of events within time. 'Writerly' texts, by defying this order, forced the reader to make his own connections between narrative elements, transforming him from a 'reader' to a 'producer'.

The terms 'readable' and 'writerly' are also 'metaphoric' and 'symbolic' in that they provide an alternative framework for discussing 'realistic' and 'symbolist' fiction, Mr. Lodge suggested, emphasizing contiguous concepts between people and things in the course of offering 'credible' reports of human experience, while 'symbolist' writing is 'metaphoric', suggesting parallels and similarities of meaning linked to but removed from the narrative surface.

Mr. Lodge illustrated his theoretical points by outlining the progress of James Joyce's fiction from the 'not quite classic' reality of *Dubliners* to the 'fantasy' of *Finnegans Wake*. In an analysis of one of the *Dubliners* stories, *The Sisters*, he showed that although the narrative 'holds together' in an apparently realistic manner, it employs certain rhetorical devices to suggest and exploit parallels between events in the story and certain apparently unrelated legends and the Catholic Church.

Mr. Lodge also suggested that the work of the 'modern' writer is to 'disrupt' the 'traditional' by means of puns, rather than 'forward' in a predictable manner. He suggested that the 'modern' writer is to 'disrupt' the 'traditional' by means of puns, rather than 'forward' in a predictable manner. He suggested that the 'modern' writer is to 'disrupt' the 'traditional' by means of puns, rather than 'forward' in a predictable manner.

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own teaching of literature, still firmly centred in a more pragmatic and insular tradition.

The conference's fourth—and more home-grown—attempt to conceptualize the contrast between realistic and symbolist fiction came from John Bayley, of Oxford University, who suggested that whereas traditional novels are 'character-dominated', symbolist ones are 'consciousness-dominated'. Character-dominated fiction depends on the collaboration between the writer and reader; the consciousness-dominated novel, on the other hand, 'impresses us by its egocentricity'. The traditional fiction writer relies on his readers to meet him halfway in the creation of character, since both writers and readers unconsciously 'know' characters such as Falstaff, Obolomov or Obolonsky from their shared knowledge of the real world.

Writers as dissimilar as Jane Austen and Tolstoy and Dickens could always have the confidence of supposing the reader understands their underlying assumptions about society and human 'modes of being', whereas the novelist of consciousness-dominated fiction 'talks in a darkened room to a person he does not see', taking nothing for granted.

The 'consciousness-dominated' novelist substitutes for a shared understanding of society a view so personal that his fictional landscape 'isn't the world' but 're-created' by the writer. One of the 'great penalties' paid by a novelist is the failure to be 'convincing', because the writer has not 'consulted' his readers, Professor Bayley suggested.

In spite of considerable interest in the three papers on traditional and experimental narrative, many delegates found several lectures, less concerned with literary critical theory and based more closely on analysis of particular texts, more relevant to their particular interests and needs. As one delegate put it: 'Only a tiny minority of English lecturers are interested in theory'; the rest are far more involved with their subject at a more practical level.

Rachel Trickett, principal of St Hugh's College, Oxford, analysing 'pace and movement in narrative' with particular reference to Evelyn Waugh's *Vile Bodies* and Jane Austen's *Mansfield Park*, generated perhaps the greatest amount of enthusiastic discussion among delegates by her paper.

She suggested that it is the nature of a novel's central character, which determines narrative pace, that is the slowest in Richardson's 'great, still' novel, a 'time' does no wrong, suffers passively, and takes little action. In the second half of the book, when the Ruffians, Julia and Mr. Yates have left Mansfield Park, leaving behind only Fanny, Mary Crawford, the Bartrams and Mrs. Norris, the novel slows down considerably as it 'closes in' on Fanny's 'passive misery'.

Comparing the modern 'subjective' narrative with the traditional 'objective' narrative, she suggested that the modern writer is to 'disrupt' the 'traditional' by means of puns, rather than 'forward' in a predictable manner. He suggested that the 'modern' writer is to 'disrupt' the 'traditional' by means of puns, rather than 'forward' in a predictable manner.

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Liverpool college merger gives students widest choice outside London

The creation of the new City of Liverpool College of Higher Education in September will be remarkable for its repudiation of a cardinal point in the Government's 1972 White Paper, *A Framework for Expansion*—which was whether there ought to be third centres of higher education in cities which already had a university and a polytechnic.

The college will be one of four centres of higher education, giving students one of the largest choices of institution in any city outside London. The reason is that the Liverpool area has no fewer than seven colleges of education.

Two specialist colleges, F. L. Calder and I. M. Marsh, are joining the polytechnic. Another three, Christ's College, St Katharine's and Notre Dame, will become a federation of voluntary colleges. C. F. Mott and Ethel Wormald colleges of education are therefore amalgamating and becoming the City of Liverpool College.

The new 1,550 student college created by the amalgamation will combine two different traditions of teacher training as well as offer new opportunities for courses outside teacher training.

Ethel Wormald, the smaller of the two, is an inner city college on a cramped site a few hundred yards from Lime Street station. It was opened in 1966 as a mature students day college specialising in courses for primary and middle schools.

C. F. Mott is a large suburban college in 60 acres of grounds in the neighbouring borough of Knowsley. It has specialized in training for secondary schools, and ran an experimental four-term year which also gave students experience in work outside teaching.

The cut-back in teacher training means that the new college will devote almost half its work to non-teacher education. It will have 600 initial places and 150 in-service and induction places. It is still not certain how the teacher courses will be integrated. Much will depend on recruitment this year.

The appointment of Mr. Brian Cane as principal-designate of the new college has however galvanized a number of major changes. After discussions with the staff of both colleges it was agreed that the new college should seek validation from Lancaster University and move to a new site.

Not only will teacher education degrees be validated by Lancaster but a range of Bachelor of Arts

honour courses is proposed. The college also offers a BA (general studies) degree related to a Diploma of Higher Education.

From next year, with the exception of mature students and certain shortage subjects, the college will become a normal minimum entry standard of two A-levels.

Mr. Cane, a staunch defender of the ability of colleges to diversify, is a realist. He thinks that colleges can concentrate on offering a limited range of strong, diversified courses and aim to attract students with two A-levels, particularly the large number of women students who still apply for teacher training.

He also considers that there is a potentially large market of students who will still be attracted by the college community and may reject large impersonal universities and polytechnics.

He also thinks that a Government policy which restricts expansion of the universities but requires a rational use of existing institutions can only benefit colleges of higher education. He is aware that the college could expand to perhaps offer places to 2,000 or more students without much capital expenditure.

Not what will the new institution be like? Certainly it will be able to offer a wide range of teacher training courses for all age groups. Applications have risen to C. F. Mott this year, after a period when the college was not as successful in attracting students as many others.

Perhaps the philosophy of the college can be summed up by a statement from the principal, Mr. Brian Cane. 'We believe that institutions must be prepared to change. We believe that institutions must be prepared to change. We believe that institutions must be prepared to change.'

Whether the college will be successful in competition with other institutions and universities will be decided by the quality of its courses and the quality of its staff.

David Henderson

Noel Wilts reviews the National Union of Students drama festival



Winners: Leeds University's 'Gas' (left and right). Centre is Central School of Arts 'England, October 30, 1975'.

Challenge is dead in causeless generation's drama

the week's 14 selected productions (out of a total entry of 82) are any indication, student drama's content in 1976 is less with ideas and more with introspection, indulgence, and a certain dubious concentration on technique for its own sake.

Where at Edinburgh was the excitement, the passion for confrontation, the revaluation of lost or under-performed masterpieces, the discovery of new writers? Where, in short, was the curiosity to expand theatrical frontiers, audiences, ideas?

The radical generation of 1970 has been overtaken by a generation waiting for a new degree course, and one moment only proposing the uncomfortable impression of a generation waiting for a new degree course, and one moment only proposing the uncomfortable impression of a generation waiting for a new degree course.

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French protests raise spectre of May 1968

the spectre of 1968 looms once again in universities around France. The Government is anxiously speculating on appropriate methods to show in its commitment to a new work base. Each student has to a work base, a small number of 150 to 200 students who are not formally, make their own coffee and discuss problems.

Perhaps the philosophy of the college can be summed up by a statement from the principal, Mr. Brian Cane. 'We believe that institutions must be prepared to change. We believe that institutions must be prepared to change. We believe that institutions must be prepared to change.'

Whether the college will be successful in competition with other institutions and universities will be decided by the quality of its courses and the quality of its staff.

visual portraits lasting about five minutes each.

The result was a hypnotic, sometimes melancholy nostalgic piece of moving scenic design, in which the designer's elements of sound and visual props combined to open up the perceptions of the viewer.

Before our eyes Stoke-on-Trent was evoked with a smoky industrial landscape, falling autumn leaves, a band in the park, a sadly revolving ballroom, and a poignantly black umbrella. The corporate effect was one of educating our visual senses, we watched in a small original way. The group won an award for their enterprise.

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men exhuming a body containing a mysterious key (to immortality), a piece of semi-pseudo *Grand Guignol* that had the audience spell-bound by its precision and theatricality.

Robert Pugh, both as director and writer, has a rare sense of timing, his play absolutely shaped to its purpose, the acting of his cast superbly matched to its style. This won for him an award for all-round achievement.

Of the other student-written pieces, Jack Laskowski's *Galileo* (St Andrews), was a well-turned, sub-Shavian exercise in a neurotic woman's encounter with a former lover, which suffers from the price of the writer directing and acting in his own play. He won the Michael Codron award for the best new script.

Ken Rosa (Edinburgh) in *The Death of Private Kowalski* found a brilliant central image—that of his hero, an American soldier dropout winning the world record for standing still—around which to build a critique of the permissive American consumer society of the late 1960s, now seen at a satirical distance.

This was performed as a rehearsed play-reading by a student company recruited at the festival. It displayed a greater commitment and talent than many of the finished offerings. It gave Philip Bird of the University of East Anglia a chance to win a prize for his play, *The Performance*, in his university's production of *Pinter's Old Times* would certainly not have done.

Here we had Pinter subjected to interpretations or 'disruptions' in the form of quotations from Joyce, Goethe, Mozart and Wagner, whenever the many heavy pauses allowed. If the director, Pete Mathers, had announced his production as a gloss on Pinter's text he would have offended a few people and interested more.

Of the original student-written plays, one stood out. *The Key* by Robert Pugh, of the Rosa Bradford College of Speech and Drama, showed us in a wonderfully taut, written piece, three drunken Irish

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of intensely-felt poeticizing from Strindberg, University in George Mackay Brown's *The Stormwatchers*, in which seven women, in Orkney gloom and stoniness, await the return of their men from a storm at sea.

The same group gave us a semi-rehearsed improvisation which gutted them out in very far, and a gallant if impenetrable shot at Hecquet's *Not I*—the monologue spoken by a disembodied mouth. It was difficult to see the reason behind the choice of any of these.

Strindberg, who might be said to have hogged the festival, always deservedly, also performed Peter Barnes' scatological farce, *Leonardo's Last Supper*, in which Da Vinci rises from the dead in a charnel house only to be killed off by the keepers and his family, desperate for the money and uninterested in the reputation of their corpse—a brilliant half-hour of acting of great panache, but little else.

Cowpox by Paul Bream, performed by Keele University Drama Group, was a tedious comedy about an urban guerrilla at a dinner-party, notable only for a fine performance by Marcus Mortimer as a drunken reactionary sparring with the visitor.

Durham University gave us *Palach*, the Marowitz/Borus collage, acted as specified, on four stages surrounding the audience. A piece of dated avant-garde, it has a certain historical interest now, but a prevailing introspection in the production. It was introspection of a not very profound quality.

By and large, though, it was a limp week, with nothing very much to challenge the mind and little to give warning of any abusive student intelligence. If there was a prevailing introspection in the productions, it was introspection of a not very profound quality.

We are dealing with a generation without a cause, and this puts a severe burden on those of us concerned with raising the consciousness of our students. It is in this sense that, if most student drama, is any indication, challenge is dead—for a while.

Over David Selbourne's *The Play of William Cooper and Edmund Day-Vue*, presented by the Cambridge Mammals Work Group, most

people wished to draw a veil. But the play, with its politically malevolent seduction of simple William by sophisticated Edmund and his girl-friend, Tiger-Bright, had a certain masochistically hypnotic fascination in its early stages.

The group afterwards confessed that its interest was primarily in word-interpretation without scenic distraction—a misconstruing of the basic contextual elements necessary to make Selbourne's play work as any more than a piece of tedium.

This leaves Chekhov's *Swan Song*—an old and drunken actor in his dressing-room after the performance—played by Jack Strouy of St Andrews University to no perceptible purpose; and the first play by Frank Cates, *A Faraway Beauty* (Bingley College of Education).

Set in a South African prison 10 years after the ending of apartheid, the play turns upon the relationship of a white prisoner and his companions, a mixture of black, white, and Cape coloured guards. Interesting in idea, clichéd in writing, and for the most part badly acted, but for a notable performance by Phil Hearn in the main part of the white prisoner, the play nevertheless opened up an area of genuine dramatic confrontation.

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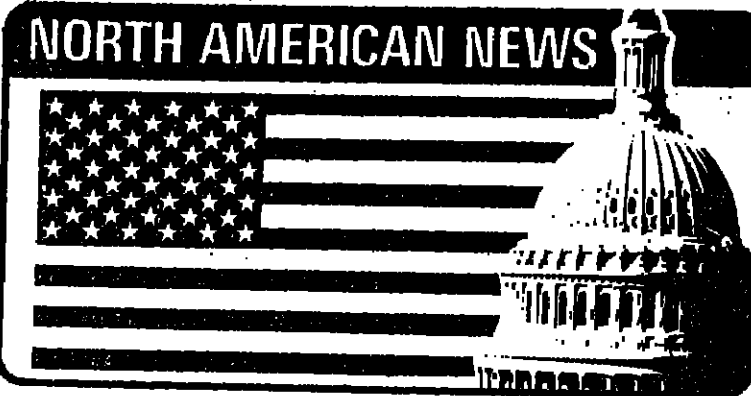
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national diplomas giving equal status to degrees from all universities will become defunct.

To grasp the full implication of the second-cycle reform the new measures should be seen in conjunction with the projected reform of teacher training. In the existing system teachers are recruited by the competitive exam after four or five years of intensive university training. In future teachers will be 'pre-recruited' after only two years and will then go on to teacher training centres in the universities administered by the Ministry of Education.

George Morgan



City University halts 'open admissions'

An end to open admissions and the merger of four colleges into two has been approved by the governing board of the City University of New York.

The board's action followed generally, but not completely, Chancellor Robert J. Kibbee's controversial plan for restructuring the university to cope with severe budget reductions.

The package of changes voted by the Board of Higher Education included:

Limiting admission to senior colleges to those in the top one-third of their high school graduating class or with a high school grade average of 80.

Limiting admission to community colleges to the top three-quarters of their high school graduating class or with a high school grade average of 70.

Dropping students who fail to maintain required grade averages. Requiring community college students to demonstrate ability to cope with advanced instruction before being allowed to transfer into upper level programmes at senior colleges.

Merging Eugene Maria de Hostos Community College with Bronx Community College.

Merging Richmond College with Staten Island Community College.

The new admissions requirements will go into effect with the students now applying for admission next autumn.

CUNY's open admissions policy began in 1970, guaranteeing a place to any local high school graduate.

Following the adoption of that policy, enrolment increased nearly 50 per cent in four years. Enrolment this spring is estimated at 225,000.

The reversal of the open admissions policy represented a retreat by the governing board on one of two principles it had been defending against budget pressures from State and city officials.

The other principle, with a much longer history at CUNY, is "free tuition". That policy, which permits recent graduates of high schools in

New York City to enrol without paying undergraduate tuition, was not changed in the board's "restructuring".

Opponents of ending open admissions said such a move would restrict opportunities for minority group students. Proponents said it was a financial necessity.

Specifically exempted from the new admission requirements are students from deprived areas who are attending college under the university's College Discovery and "SEEK" (Search for Education, Elevation, and Knowledge) programmes.

Students who fail to qualify for admission under the new requirements will be referred to a "transitional center" for improvement of skills in mathematics and language.

Those who fail to maintain at least the minimum grade averages under the new requirements adopted by the board will be placed on probation for one semester and then, if their grades do not improve, they will be dropped.

"With the inception of the open admissions program," the board said, "the university and its faculty liberalized the grading process so as to maximize opportunities for the students."

"In the process, the grading system has been abused to the extent that very little incentive has been provided to the students where he or she is doing less than average work."

"The intent of these resolutions is to have the students' transcripts accurately reflect their performance and to maximize the available institutional resources."

The university receives nearly half its financial support from the city government, which in the past year has been near bankruptcy because of accumulated debt.

CUNY's current budget is nearly 7 per cent less than the amount it spent last year. The city government is threatened to cut off all its support for CUNY's senior colleges within two years.

Officials of both the city and the university have urged the State government to increase its support for CUNY, but without success.

Chronicle of Higher Education.

Dr Kissinger: declining star in the West?

from our correspondent

NEW YORK Bits and pieces of the private life of Dr Henry Kissinger have often made news in America. But now his college papers are making headlines as if they were long-concealed peccadilloes.

In a nationally televised speech Mr Ronald Reagan, President Ford's opponent for the Republican nomination, accused Dr Kissinger of being a "can't win" foreign policy for the United States because he believed that America was on the road to inevitable decline.

He quoted Admiral Elmo Zumwalt, former chief of naval operations, who in his new book *On Watch*, attributes to Dr Kissinger the fatalistic view that historical forces now favour the Russians.

"The American people have only themselves to blame because they lack the stamina to stay the course against the Russians who are Sparta to our Athens," Zumwalt quotes Kissinger as saying.

Dr Kissinger has denied all this, pointing out that Athens outlasted Sparta by several centuries, a matter that Reagan and Zumwalt seem to have overlooked.

The controversy has led to the resurrection of Dr Kissinger's theses written while he was a history student at Harvard, in the hopes of being able to pin down the Secretary of State's political philosophy.

He really, during his many diplomatic missions, only trying "to negotiate the most acceptable second-best position available" — the words Zumwalt quoted him as using to describe his job?

Kissinger's undergraduate thesis at Harvard College — *The Meaning of History: Reflections on Spengler, Toynbee, and Kant* — provides everything with some ammunition.

Whether or not one interprets Kissinger to be a Spenglerian, he did, after all, repeatedly urge Mr Nixon to read *The Decline of the West*.

It is at least as hard to conceive that Mr Nixon ever did, as to imagine that President Ford, now forced to defend his Secretary of State's philosophy, is currently trudging through it.

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Middle classes bearing brunt of climbing costs

from Thomas Cahill

NEW YORK

There is growing apprehension among parents and educators that because of runaway costs American colleges are on the verge of pricing themselves out of existence.

Constitution is especially in evidence among middle-class parents who—in the past—would have automatically presumed that their offspring would go on to attend a better-known college. Suddenly, the costs are getting beyond the parents' means.

The College Entrance Examination Board is warning parents that the total cost of going to college this September may increase by 9 per cent or more over the previous year. The board also warns—in a new publication *Student Expenses at Postsecondary Institutions, 1976-77*—that parents should beware of relying on outdated information, since college costs have risen markedly since 1970; in certain types of institutions by nearly 100 per cent.

If a student boards at a typical four-year private college, for instance, his parents can now expect to pay, on average, \$4,568 for the year—a 6 per cent increase over 1975.

Some private colleges, of course, cost much more and others less. This average sum of \$4,568 breaks down into \$2,329 for tuition costs and other academic fees and \$2,239 for "other" costs—room and board, books and supplies, transport and personal expenses.

Whereas tuition costs at four-year private colleges have risen by only 4 per cent, the "other costs" have gone up by 9 per cent. This disproportionate increase in "other" costs holds true generally at all types of postsecondary institutions.

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Communists launch plan for university change

from Patricia Clough

ROME

The Italian Communist Party has unexpectedly presented a plan for university reform.

The most striking aspect of the proposal is its broad similarity to reform projects drawn up by past centre-left Governments. Its main features—the abolition of the power and privileges of senior professors, a more democratic system of university self-government and the insistence that professors dedicate themselves full-time to their jobs—were put forward by the party's last government.

Although it has little practical chance of being debated in Parliament in the near future, the plan is being taken seriously in political and university circles as Communist participation in the next Government becomes more and more probable.

As in Government plans for reform, the universities would be reorganized on departmental lines, and the present agglomeration of one-chair faculties would go. Each department would be run by a departmental council which would elect a director for a term of two years.

The university itself would be governed by an administrative council and by the university assembly. The latter, composed of all the members of the departmental councils, would elect the rector.

A National University Council is envisaged to propose (not impose) national university policy. One innovation is a proposal for regional university councils, composed

equally of university and regional government representatives, to work out regional higher education policy taking into consideration local cultural and economic requirements.

The plan envisages only two teaching levels—professors and assistants—and stipulates that professors must put in at least 12 hours' teaching a week, spread over not less than four days.

The present system, which enables professors to do lucrative outside work and turn up only once a week or even once a month to teach, would be made virtually impossible.

One of the most intriguing features of the Communist plan was an oblique suggestion that the regional councils should "encourage" the entry to various degree courses.

This is the nearest that any Italian party has yet come to suggesting a limitation to university entrance. When the Socialists joined the Christian Democrats in the 1960s access to the universities, in the name of equal opportunities for all, was thrown open to everyone who had completed their secondary education.

The resulting explosion of entrants soon brought the universities, created to educate a small elite, to the verge of collapse and created bitter disappointment among graduates who found that their mass-produced degrees were virtually worthless pieces of paper.

Graduate unemployment is now one of the more serious social and political problems in Italy.

The prospects of Federalism, however, are not bright. Republican candidates for President and most of the Democratic candidates are opposed to any extension of anything so radical as a national school leavers' conference to rise (163,000 in 1974, 172,000 in 1975) and the percentage of those who definitely do not wish to study is increasing only fractionally (from 18 per cent in 1974 to 18.8 per cent in 1975).

The present selection procedure for university entrance was established in 1973 by a treaty between the Länder in response to a 1972 Constitutional Court ruling that the Central Admissions Office in Dortmund at present allocates places in "overcrowded" subjects on the basis of detailed and mathematical provisions.

This system has not only been called in question by, admittedly largely unsuccessful, court actions brought by rejected applicants; but also by one of the Länder—Bavaria—which thought it put its grammar school leavers at a disadvantage (THES, May 19, 1975 and July 18, 1975).

Bavaria was successful, and the Bavarian Constitutional Court's ruling created a vacuum in the one subject—German—on which the nationwide selection system was based. The Bavarian constitution; on the other, the complete new procedure enshrined in the General Framework Law for Institutions of Higher Education will not come into force until 1977/78.

With the fate of several hundred thousand applicants at stake the Federal Administrative Court in Berlin decided that despite the Bavarian ruling the old procedure could be operated once more for all admissions this semester in order to avoid complete chaos.

In the meantime, all other Länder who followed Bavaria's point of view had asked the Federal Constitutional Court to overrule the Bavarian court's judgment and to uphold the present procedure for the time being.

On April 7, the Federal Constitutional Court in Karlsruhe declared that a decision on this point lay outside its competence since the inter-state treaty on the allocation of university places was of an administrative, not a constitutional, nature.

It also refused to issue an injunction to force Bavaria to accept the decisions of the Dortmund Central Admissions Office as valid on the basis of the Federal Framework Law.

The Constitutional Court thus referred the whole issue to the Federal Administrative Court at Berlin which is now facing a decision on what is going to happen to school leavers at a disadvantage (THES, May 19, 1975 and July 18, 1975).

The issue will nevertheless ultimately return to the Federal Constitutional Court since the new provisions of the Framework Law, which will be subject to judicial review, are based on the principle of equal opportunities for all.

In the meantime this year and next, most grammar school leavers will be faced with the minimum university entrance qualifications not only face being turned down but will not even know which procedure was used to decide on their application.

It will contain two representatives each from the National University of Ireland, the University of Dublin, the Royal College of Surgeons in Ireland, the Colleges of Technology in Dublin, and the Limerick National Institute for Higher Education. The chairman of the new grouping is Professor George Dawson of the University of Dublin.

The group will be set up to coordinate ways in which Irish universities and other third-level institutions can contribute to the Irish programme of overseas development aid.

Initially the group will be serviced by the Agency for Personal Service Overseas, which is partially funded by the Government and

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South Africa

Student union faces danger of collapse

from Louis Hotz

JOHANNESBURG

Only two of the English-language universities in South Africa, the traditional strongholds of the once powerful National Union of South African Students (Nusas), are now still willing to remain officially affiliated, through their Students Representative Councils, to the organization.

They are the Universities of Cape Town and of the Witwatersrand; and in the case of the latter, the majority in favour of continued affiliation in a campus referendum was about 400 in a total of 5,400.

The University of Rhodes and the twin universities at Durban and Pietermaritzburg, which constitute the University of Natal, have rejected the present system of mass affiliation.

The attitude of the students there, as well as of the strong minorities at the other universities, indicated a general desire to get away from the present arrangement under which students are compelled to be members of Nusas. Membership, it was felt, should be left to the individual choice.

Mr Paul Sarbut, a final-year law student who is chairman of the newly-founded South African Federation of English-Speaking Students (THES, April 2) claimed that his conservative "right" organization was gaining increasing support from students, particularly in Johannesburg.

The American University of Beirut continues to stagger under a hail of misfortunes, prompting speculation that its future is likely to be much shorter than that predicted in the university's last Programme of Studies Report, grandly entitled *The University: Horizon 2000*.

Although an eleven-hour promise of a Lebanese Government loan of approximately \$8,000,000, to be paid back over a 10-year period, rescued two-thirds of the university's academic and non-academic staff from dismissal this June, AUB's fortunes may hardly be said to have taken a turn for the better.

The violence in Beirut itself has closed the university once more, as rival political factions battle it out with tanks and artillery only hundreds of yards away from the AUB campus, and Dr Samuel Kirkwood, AUB President, retired abruptly while on a visit to New York.

He is to stay in the United States "to undertake a special study of facets of higher education here which would enhance the implementation of the new university programme".

Dean Craig Lichtenwalder of the faculty of medicine has been appointed acting President.

He faces a number of pressing problems, the most serious, perhaps, being the timing of the re-opening of the university. He will also have to try and track down that Lebanese Government loan which has so far not materialized.

Malta is the sixth country, with 36 places available, five at the Royal University.

Mr G. C. Mappa and Mr George Kahari, senior officials of the internal wing of the African National Council, expressed satisfaction at this development, which they hope to see expanded particularly by indications of aid from India.

The Ministry had agreed to fund up to 100 places for first year students at the University of Rhodesia this year (THES, March 26) but the chairman of the local World University Service committee said that only 40-50 places had been taken up, largely because the offers of funds had come too late.

Meanwhile, an independent Rhodesian organization, the White Foundation, has proposed a variety of projects to stimulate training in the African tribal trust lands with the intention of encouraging development, particularly in agriculture.

The foundation, sponsored by, among others, a brewery, Shell Holdings and a subsidiary of the Tobacco Auctions Company, has proposed an initial 12 education projects costing around £300,000.

Of these, about the foundation will offer £75,000 in grants and £25,000 in loans. The remainder will have to be found either locally or from foreign contributors.

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Successful exercise in 16-plus consultation

The Schools Council's exercise in consultation over its proposals to reform the 16-plus examinations has been successful in at least one respect. The universities have been flushed out from behind their cover and made to comment on what is happening in secondary education. As Viscountess de la Motte pointed out in the recent Lords' debate on the universities, they at least admit to being aware of what is going on. In recent years, academics have been indifferent to the schools, and it might be hoped that even if the Schools Council proposals have met the universities' opposition, their response heralds a new drawing together of the interests of school and university teachers.

From the universities' responsibility for the largely autonomous General Certificate Examination boards, the few able admissions officers who take a keen interest in the rest of the educational system. There is the rub: the force of university opposition to the 16-plus proposals goes to show how little the integrated system of education there actually is when the universities and the secondary teachers can get on such different tracks. For the sake not only of the more able pupils but for those in the lower ability band who will benefit most from the proposals, it is vital that the unity of the educational system be restored.

The response of the Committee of Vice-Chancellors and Principals to the proposed merging of the GCE and the Certificate in Science Education has been unfortunately spurious. The educational fate of the more able pupils is a legitimate object of university concern, but the CVCP should not draw up its skirts around only those who go on to academic A-level courses. Admittedly, the reform of the 16-plus examination system cannot be considered in isolation—it impinges on who take no academic examinations—and what is disconcerting about the CVCP's response is that it leaves the all initiative in curriculum reform to others.

This divorce between secondary teachers and academics is disturbing. It is refracted through the complicated politics of the Schools Council. It surfaces in the widespread "Made in Italy" examination. Under the basis of examination in the university, surely school teachers are not less capable of administering such a scheme judiciously.

Staff mobility

From D. J. Rowe
Sir—The response to my letter (THESE, January 30) on academic mobility has shown that there are a number of university teachers who are concerned about the growing divergence of movement between universities.

I have received several letters which have endorsed my opinion that the immobility of staff is likely to be a major factor in the decline of the universities. I am sure that the new ideas and approaches which are being developed in the universities will be lost if the staff are not mobile.

I have asked any of your support who are interested in such a scheme to contact me.

D. J. ROWE
Department of Economics,
Newcastle University.

Sports facilities

From Mr Joe Madhurst
Sir—In the absence of realistic UGC norms for the provision of recreation facilities (THESE, April 2), much more serious thought should be given to the financial method of building.

LETTERS TO THE EDITOR

CVCP and school exams

From Dr W. J. Duffin
Sir—Once again the universities are interfering irresponsibly in school education, this time through the Committee of Vice-Chancellors and Principals (THESE, April 9). It is bad enough that our requirements should largely determine the direction of sixth-form studies, but that attempts should be made to influence education up to 16 in the same way leads me to condemn the CVCP's statement as nothing but a combination of arrogance and prejudice.

It is arrogant in its expressions of misgiving about the proliferation of mode three examining in schools, the implication being clear that school teachers cannot be trusted to maintain proper standards without the GCE boards based in the universities. I wonder whether members of the CVCP have forgotten that all university examinations are mode three and that some do not even have the protection of moderation by external examiners. Yet I am not aware of any publicly expressed misgivings about our procedures.

The statement also reveals prejudice, particularly in the first paragraph. "The universities concern themselves with a lowering of standards of academic achievement among the more able boys and girls would adversely affect the quality and productivity of their graduates." This is pure propaganda; the phrase "lowering of standards" is undefined and so will be given a meaning according to the reader's own feelings.

A "lowering" is then clearly to be deplored, and because it is associated with curriculum reform, are led to deplore such reform. As a member of a university, I for one do not want to be associated with sloppy arguments of this sort and wish that the CVCP would not issue such statements in our name.

Much of the present dissatisfaction with curriculum reform in schools is based on a crude equating of standards with the amount of material in a syllabus or with its relevance to academic study. When the content of a syllabus is a specialist subject is reduced, it is inferred that there has been a lowering of standards. The fact that there might be an increased understanding, a broader education—all of which are a raising of standards—is ignored. We in the universities would do well to keep in mind that we deal with a small minority of the population, and we are likely to damage a system of education by

insisting that its prime concern shall be the provision of undergraduates who need no further tailoring to fit our existing course.

Yours faithfully,
W. J. DUFFIN,
Department of Physics,
Hull University.

From Mr Anthony Arblaster
Sir—In a front page report you gave prominence to a recent statement from the Committee of Vice-Chancellors and Principals about what is claimed to be the view of "the universities" towards possible changes in the school examination system (THESE, April 9). I do not want to comment on the committee's opinion, except to observe that it appears to favour a degree of enforced uniformity and permanence in school syllabuses which it would never tolerate in higher education.

What is particularly brazen about the committee's statement is its implicit claim to speak on behalf of "the universities", as if a minute body of top administrators can be assumed to represent the views of around 35,000 university teachers, staff and students, who comprise the majority of members of universities.

It may or may not be the case that the committee does express a majority view. If it does so, this is largely coincidental, since on this issue, as on so many others, the committee's statement is not the outcome of any process of democratic consultation and debate within the universities.

It is high time that the right of non-elected, and in practice largely non-accountable, administrators to speak on behalf of large-scale institutions as if those institutions were their personal property was seriously challenged.

The Campaign for Academic Freedom and Democracy has many more members than the CVCP, but its executive committee, of which I am a member, would never claim that it can speak on behalf of all its members. Yet though this committee, unlike the CVCP, is subject to annual election and accountable to the membership through annual general meetings.

It is ironic that those who, like Sir Michael Swan, accuse students of totalitarianism should also have elected post and enemies of all efforts to apply the principles of elementary democracy within the institutions they claim to represent.

Yours sincerely,
ANTHONY ARBLASTER,
Crookmoor Road,
Sheffield.

Sandwich reappraisal

From D. F. Dunster
Sir—Alan Smithers is clearly correct (THESE, April 9). There is an implication that the two parts of a sandwich course should be in some way interrelated and mutually enhancing. Unfortunately, this activity is often assumed to take place entirely in industry.

Some sandwich courses give the impression of being full-time courses in which arbitrary industrial experience has been inserted at convenience. Comments from industry indicate that such courses exist in universities and polytechnics.

In a sandwich course the academic part must be as important in relating and enhancing as the industrial part. Mutual enhancement relies on the constructive interaction (what students need to be able to do for the sake of the work) and the discipline (what students need to be able to do for the sake of their own development).

Such goals are only contradictory if misunderstood, attainable objectives can be raised that simultaneously satisfy both goals. Students making useful contribution and being being acceptable to employers.

ers; once accepted they should be able to obtain personal benefit, having been properly prepared.

On return from industry they should have a more realistic attitude, enabling them to tackle specialized work with a confidence based on personal experience of work in a non-contrived environment.

These are not pious hopes for an ideal world; they are observations from experience. Many students obtain great benefit from the integration of the two parts of their studies, but many do not. Too much is too often left to chance.

A reappraisal of sandwich courses is needed at this time, not because they are often seen to fail, but because it is now more apparent that they can be done, to make them succeed. This reappraisal could be agonizing for many a university because much of the present difficulty results from their inflexibility.

Students must be given the benefit of a course that is structured as a complete learning experience rather than as a concatenation of loosely connected elements. Reappraisal will lead to redesigning work needs to be done. We have now no perspective.

Yours faithfully,
D. F. DUNSTER,
Engineering Industry Training Unit,
North-East London Polytechnic.

SSRC unit

From Sarah Dean and G. Loosemore-Reppen
Sir—We have been informed that the Social Science Research Council's Association of Scientific and Technical and Managerial Staffs is to write to you to make the number of points arising out of the article (THESE, March 5) on the SSRC Survey Unit.

The SSRC ASTMS Group wants the scientific staff of SSRC and wishes to make it clear that we do not and did not have any view on the future of the Survey Unit, which is a matter for the SSRC Council policy. We are not any lobby within SSRC for any particular course of action.

● We supported the unit at their claim for better use of the council decision taken in the past for no one in the past for example, we supported their request for a sited at relevant committee.

● We much regret that attributed to the chairman on the freezing of assistance to any notion of non-academic staff and students, who comprise the majority of members of universities.

Yours sincerely,
SARAH DEAN,
GERDA LOOSEMORE-REPPEN,
SSRC ASTMS Group.

English studies

From Professor G. H. Bank
Sir—Mr Terence Hawkes has himself (THESE, April 9) a notion of reality can avoid having roots in the past. It is an uncharacteristic of many a "new" development, developed during a long period of education by nature, that it should be rooted in terms of existing linguistic and artistic forms.

The very words we use are not least past associations. Bank's "new" letter belongs to a tradition which is not only termed "the tradition of new".

Each generation, of course, is able of readjusting its old notions to new conditions. As Mr Terence Hawkes has taught us, even art owes more to past art than the innocent eye. And certainly medium is not the message—it is only to some limited extent.

Yours truly,
G. H. BANK,Emeritus professor of education,
University of Leicester.

From Graham Dunstan Martin
Sir—Mr Fiske (THESE, March 5) is right to suggest that literature structures our response to "Inchoate reality" of the world. Mr Hawkes (THESE, April 9) says, "Nature does not grow in a vacuum."

Mr Fiske objects however to literature that comes with the problem of the introspective individual and the individual's one that helps the culture conform to its own culture.

Is there no place, then, for deepening the individual's response in a way that is partly at odds with certain aspects of his society? If not, there is no place for conformity, and ultimately for the social reality, however it is created through a mass of individual consciousnesses. And individual identity is created and conditioned in the first place within the personal relationship. Nothing can be more so less trivial than Oedipus, Hamlet and King Lear.

And as for the "reduced to a dimension", we may look at the culture, art, sociology, etc., as a mirror and a lens through which other people and the world are seen. Literature is a particularly subtle and precise instrument—certainly more so than Steps and Son—and this is the justification for studying it.

Yours sincerely,
GRAHAM DUNSTAN MARTIN,
French department,
Edinburgh University.

Lessons of the battle against central control

The British Government has not always been fortunate in its handling of education. Before 1940 it could generally be charged with having taken too little interest, at least in higher education. There then came a sequence of events in which the contribution of the British and the launching of the Sputnik in 1957 were outstanding landmarks.

The former demonstrated to the British Government in particular and the world in general that national survival could depend on the efforts of a small band of scientists and engineers, the latter that Russia was outpacing the West in producing such men.

The consequent plans for national expansion in science and technology with a concomitant expansion in education, were intended to help the individual to make the best of himself and the nation to make the most of its intellectual potential; but they have gone awry in a manner that was entirely foreseeable.

The question is therefore whether relations between government and education could somehow be improved so that at least the worst of the disasters would be avoided, and more positive advantages gained from the effort expended.

If it is easy to theorize about the best form of government, it is still easier to theorize about education, for it is an activity in which rival schools of thought can hold conflicting doctrines and whether or not they are proved to be right, they are a part of the educational process, which few are prepared to wait for.

There is no means of exact measurement in education such as would settle a dispute between rival theories in natural science; and there is no short-term tangible product of the good teacher such as would come from a good craftsman or a good artist. Education is thus a profligate field for the habitual theorist who can either cling to one particular theory or jump to another as "superficial observation may move him.

Rather than theorize too much at the outset, it may therefore be more useful to look at some key passages in the past relations between government and education. It is likely that government has always failed in education it is worth looking at some of the mistakes to see how they might have been avoided.

A classic example where government intervention in education was disastrous was the Clarendon Code of the 1600s. This resulted in Oxford and Cambridge being close to disaster, Roman Catholics and all others who would not subscribe to the Thirty-Nine Articles of the Church of England.

This restriction denied the universities the benefit of many men of independent mind, so much so that most of the scientific advances in England in the 150 years preceding 1870 were made outside universities by men such as Priestley and Faraday. Incidentally, Priestley wrote in his 1771 essay *The First Principles of Government* that "Education is a branch of Civil Liberty which ought by no means to be surrendered into the hands of the magistrate."

The 1852 Royal Commission on Oxford's was instructed not to discuss the admission of dissenters, but the commissioner felt moved to record that several members of the university felt strongly that the Clarendon Code should be abandoned.

And the commissioners themselves expressed their conviction that the manner in which it was being imposed "habituates the mind to give a careless assent to truth which has never considered, and naturally leads to sophistry in the interpretation of solemn obligations."

It took another 19 years before the University Tests Act abolished the Clarendon Code, and before Oxford and Cambridge would become strong centres of scientific research.

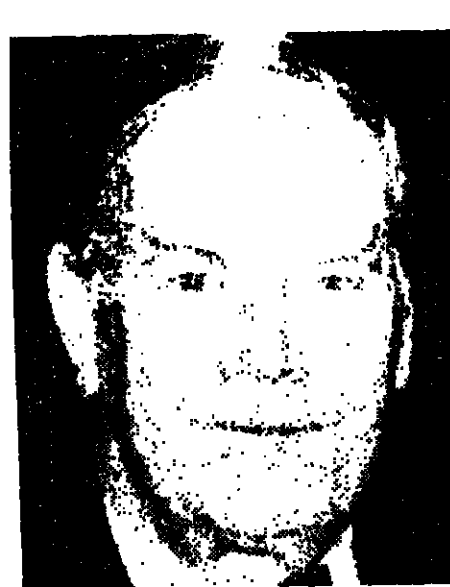
In more recent times, the report that has had most impact on higher education was that of Robbins. Its concepts of the aims of higher education were admirable, but it recommended the doing of too much too quickly by way of expansion.

It did not attend carefully enough to one point which had been emphasized by the earlier Barlow Report: "the quality of our graduates must not be sacrificed to quantity." A few other fields are numbers of go little value compared with quality properly developed.

The Government, however, immediately and uncritically accepted the Robbins recommendation to expand substantially funds for their implementation.

It was obvious from the start that things were likely to go wrong, and they did. The proportion of students in science and technology did not increase in the intended way, and money intended for them instead went to a large expansion in subjects such as sociology, which attracted students not only for their intrinsic interest but also for the ease by which degrees could be obtained in them.

Thus, the actual direction of the main expansion was dictated not by the requirements for scientists and technologists that the com-



Professor R. V. Jones

R. V. Jones discusses

problems in the relationship of government to education, and suggests the setting up of an Educational Policy Council

mittee had itself supported, but by the choice of subjects by students who before the Robbins expansion would never have come to universities at all. And neither the Government nor university authorities made any move to correct this unintended change of direction.

Moreover, since overwhelming priority was given to numbers as opposed to quality, even within the sciences and technologies themselves, standards were lowered in order to meet the quota, and to try to prevent too much of the science and technology share of the cake going elsewhere.

And since the University Grants Committee has allocated funds overwhelmingly in proportion to the undergraduate teaching load, any department that tried to preserve its standards by not accepting inadequate undergraduate students thereby found its research possibilities restricted.

When the students had graduated and begun to be tried in industry, it was found, not surprisingly, that some of them were not of a quality that industry had been led to expect. The result was that science and engineering graduates from universities began to get an unfairly bad name, and the pendulum has swung against universities in favour, for the time being, of the polytechnics.

So universities are now under financial duress, and some basic departments are even worse off than before Robbins, because so many staff and ancillaries have been taken on in the latter options. These now demand the university grant that there is less left than before Robbins for the basic departments. Verily "the last state of that man is worse than the first."

The foregoing account has recited two of the steps in the conflict between the will of individual institutions and that of a centralized control. When the UGC was set up in 1919, individuality was so much valued that for the next 40 years the UGC was very reluctant to interfere in the affairs of individual universities, even to the extent of awarding sums within the quinquennial grants.

The UGC might express a wish to a particular university that priority in spending some of its grant should go to particular subjects, but the university was free to ignore this wish, and universities often did.

The fact that individual universities, or even the vice-chancellors as a whole, did not always act in accordance with what certainly appeared to be national needs, gave grounds for those who wished for greater central control.

Government control of education is dangerous in at least two respects. A doctrinaire policy such as that regarding comprehensive schools can be enforced before its merits have been proved—or worse, before its faults have become evident, and long-term damage thereby inflicted.

Alternatively, something that ought to be done is forbidden because its importance has not yet been recognized by official doctrine, however prudently this may have been developed, just as the merits of the conveyance were not recognized by the Admiralty in 1917.

What I would like to see is a body that could stand back from the detailed administration of universities, polytechnics, colleges, and schools at all levels, and which could consider how the system is working, where it is likely to go, what changes need to be made, and whether changes proposed from within the system itself are likely to be of long-term benefit to the system and to the country as a whole.

Where might such a council have provided strategic comment in the past? It might have aroused the Government before 1900 to the fact that the work of the Boylston Committee was being frustrated by inadequate funding.

It would have listened to Tizard, Lindemann, Blackett, Barrow, and others in the period between the two world wars. It might have challenged the vice-chancellors in 1946

regarding their argument that the student numbers in other faculties needed to be doubled because those in science and engineering were to be doubled.

It would have challenged the Government at the same time regarding its decision to staff up its research establishments effectively at the expense of the universities and schools just when it was asking these to double their output.

It might have challenged Lord Robbins regarding the working out of his expansion, and it would certainly have challenged "my ardy Law". It would also have asked him why, at a time when university student numbers were to be doubled, he recommended that medical students were only to be increased by eight per cent or so when a deficiency in the number of doctors was already evident.

It would also have asked whether it was wise to let the natural tendency for the rump of the student body to go for soft options determine the post-Robbins staff distribution in universities. It would have questioned the wisdom of making university grants almost solely dependent on graduate numbers, with almost no regard for quality and for research achievements.

It would have at least tried to sort out the tangled relations between universities and technical colleges, and it would have enquired why polytechnic staffs should be paid more than those in universities. It might well have rejected the desirability of abolition of eleven-plus selection until the success of the comprehensive experiment was clear.

And it might well have detected such a straw in the wind as the Social Sciences Research Council making a grant of more than £15,000 to two lecturers in sociology in the University of Essex for research into publishing or rejecting a book at a time when it was already clear that a period of university retrenchment was upon us.

How should such a council be composed, and where would it best fit? It should certainly include a selection of men and women who are currently successful at the various "sharp ends" of education, and who are prepared to be fairly detached from the particular interests both of their special subjects and of the type of institution in which they work.

The Secretary of State for Education and Science and his Shadow counterpart, might well themselves be members. Bodies such as the Church, the Royal Society, the Royal Academy, the British Academy, the Chiefs of Staff, the Confederation of British Industry, and the Trades Union Congress might have the right of nominating members, although these members would then act as individuals rather than as representatives of the bodies that nominated them.

There should also be room for representatives of the law and medicine, and one or two sympathetic laymen. The body would be sympathetic to the cause of education, but it should not be too large for effective discussion, while covering a wide range of interests.

The council would be independent of such bodies as the UGC and of the various divisions of the DES. It should comment on the highest possible level, and it should not be a departmental committee where the members are nominated by the Secretary of State.

Such a council can be "packed", and in my own experience as chairman of more than one of these councils, they are very much in the hands of permanent officials of their particular departments. The problems that are brought before them, and they have insufficient say in policy.

Perhaps the nearest counterpart to what I have in mind was the Committee of Imperial Defence which used to sit under the chairmanship of the Prime Minister, and which consisted of service chiefs and ministers, along with such independent members as the Prime Minister might invite, sometimes including politicians outside his own party.

A. H. D. Ackland in 1893 took one step in the same direction when he established inside the Education Department an Office of Special Enquiries and Reports, which provided him with an educational intelligence service. Some combination of these concepts might give us a body which would safeguard the long-term interests of education in a way that does not exist at the present time.

The authority of the council would have to depend not on executive power but on the respect for the good sense that its deliberations and comments should command. But this, and indeed any other, proposal for improvement will be ineffective unless the making of executive components of government are not made up of men and women who are themselves genuinely sensitive to the problems of education.

To ensure that, some better qualification has to be found than a glib performance on the hustings.

The author is professor of natural philosophy at Aberdeen University. The article is taken from "Macrosociography Academic", published in the current issue of the Oxford Review of Education.

BOOKS

City of economic man

Urban Development: The Process and Problems by Wallace P. Smith
University of California Press, £9.60
ISBN 0 520 02780 9

Social Aspects of Planning in New Towns by H. M. Wirz
Saxon House, £6.95
ISBN 0 397 01094 6

Urban Systems: Strategies for Regulations by J. S. Bourne
Clarendon Press: Oxford University Press, £6.00 and £2.75
ISBN 0 193 74054 9 and 4055 7

Wallace Smith's book is concerned with the way in which policy decisions are arrived at within a western capitalist system on which planning is only beginning to impinge. It is a textbook which does not set out to question or argue the theoretical underpinnings, but merely to give an introductory account of urban economics. He does so lucidly and at some length and in a way which should satisfy teachers and students. The reader is taken through the economics of location, the urban economic base, patterns of land-use, urban resources and their exploitation and real estate, to the financing of urban development and urban dysfunction. This is the city of economic man, and at times the problems of planning within the economic system are well demonstrated, as when the author compares the approaches to deciding

the land-use of a given parcel, first as a market system decision, in which the effects on contiguous parcels need not affect the decision, and second in a centralized planning system, when every interrelationship has to be considered. Chapters on dysfunction and governing the city do raise some of the problems of the market system approach, but the book is specifically an introductory text and not about problems.

In contrast Dr Wirz's book is on one very specific problem, group formation, examined in the rather limited context of three Scottish new towns. It still bears the heavy imprint of a doctoral thesis; the reader would be grateful for a few simple facts which only gradually emerge. For example, the location of the towns, and the date of their founding. The latter is very pertinent, for the fact that Livingston belongs to another generation affects the data and the argument.

The single aim of the study is to test certain assumptions made in the Reid Report about the development of groups and societies in self-contained communities. The study is not based on the views of all the inhabitants of these towns, but is concerned with the implementation of policy, so the empirical work deals with organizations as they exist. Little is said about origins or initiation of the groups, though the author has interesting material on membership and leader-

ship and on social mix. What seems to be lacking is a general conclusion on the empirical sections. A strong case is made for the use of trained officers in fostering social activities as well as the need for research and monitoring.

Professor Bourne's book takes us to the other end of the scale in a comparative study of urban strategy in Britain, Sweden, Australia and Canada. The contrasts are interesting between the two very mature countries in which controls are well established on the one hand and on the other two countries of continental scale in which national or federal strategies are only beginning to emerge against a future of considerable urban expansion. Following a succinct outline of what is implied both by urban systems and urban strategies, the four case studies are discussed and then brought together in an endeavour to define areas, problems, policies and goals, and to match urbanization strategies and urban systems. Underlying the whole is the idea that the interrelatedness of cities, which is implied in an urban system, demands an equally integrated approach to regulating urban and regional development.

The author has first-hand knowledge of the systems he deals with and bases his views on an extremely wide analysis—one of the most valuable aspects of the book is its thorough bibliography.

Emrys Jones



Martha Graham performs in *Errand Into the Maze*, taken by Body Electric, Patterns of Western Industrial Culture by Ben Hall, published by Thames and Hudson, £6.50.

Environment for corruption

Politics, Bureaucracy, and Rural Development in Senegal by Edward J. Schumacher
California University Press, £12.20
ISBN 0 520 02087 1

Society and Bureaucracy in Contemporary Ghana by Robert M. Price
California University Press, £9.75
ISBN 0 520 02811 2

With the rush to independence in the 1950s and 1960s among colonial countries there was also a rush to print among scholars in Europe and America. Much of the scholarship took the form of recommendation: import-substitution industries, central planning, bureaucracy and so forth. Much of it was also glib, optimistic and ethnocentric: little notice was taken of the historical specificities of ex-colonial countries, development was a relatively certain outcome of sensible planning and to develop meant to become like Europe or, better, the United States. Today the picture is a more complex one within which, to caricature the situation, two broad schools have emerged.

The first school, deriving from the American political economist Paul Baran and the Latin American Gunder Frank, take as their point of departure the proposition that the Third World is connected in various ways—most of which involve some measure of control—with the developed world. They believe the less developed world has been distorted in such changes as have occurred—towns with plantations, export oriented monocrop agriculture, corrupt bureaucracies, interventionist

armies, capital-intensive medicine and industry and so on—by an unequal and essentially exploitative relationship and that this fact has long and powerful historical roots.

Development implies somehow breaking loose from a neo-colonial relationship while radically restructuring the internal politico-economic nexus which itself involves exploitation. The second school is really a continuation of the idea that to develop is to become like Europe or America, but with much of the optimism subdued by fieldwork and eroded by the failures of various aid missions, plans, politicians, exhortation and projects. For this school Africa and Asia are seen as less tractable than they once appeared.

Both Price and Schumacher belong to the second school. Price examines the failure of bureaucracy in Ghana to adopt the various postures that theorists from Max Weber onwards have suggested for the failure of the political elite (never at all closely specified) in Senegal to construct a bureaucracy capable of increasing the productivity of the rural areas. In the case of Senegal a succession of plans failed to make any impact since the major political party, like the "traditional" network of elites who used it in their own interest, is no reason to think he is wrong, that these volumes are serious sense wrong but they have to say about the state. It is generally quite sensible to be cynical about the state. It was rather limited by a failure of state parasitism with the social groups linked together to the state and external regimes.

Butterflies and birds

John G. Higgins has written and illustrated a companion to *Field Guide to the Butterflies of Britain and Europe* which he wrote with N. D. Riley. *The Classification of European Butterflies* gives, in one volume, the recent developments in identification and classification of butterflies so far as these relate to the fauna of western Europe.

In the earlier book the authors were concerned with identification through external appearance, but in this volume they deal with anatomical characters, the basis for classification, not only species but also genera and all higher categories. An Appendix details instructions for specimen preparation; there is a comprehensive bibliography and index. It is published by Collins, £7.50.

Also from Collins is *A Field Guide to the Birds of the World* by Gruson, price £3.95. This book for the biologist is a complete guide to the birds of the world, with the authority of the authors and the broad distribution of each species.

BOOKS

The science of opinion?

The Delphi Method: Techniques and Applications edited by Harold A. Linstone and Murray Turoff
Addison-Wesley, £19.20 and £9.90
ISBN 0 201 04294 0 and 04293 2

Delphi is essentially a methodology for consulting experts for guidance on policy and decisions. It was invented about 20 years ago by the Rand Corporation as a device for estimating the probable effects of a massive atomic bombing attack on the USA. It has subsequently been developed and applied mainly to technological forecasting. But it has also been extended to a variety of other applications where action rests heavily on judgment and opinion.

The technique is basically simple. A small team of monitors develop a questionnaire which is distributed to a panel of "experts". The results are summarized and fed back to the panel who are then given at least one opportunity (usually two or three), to modify their original answers in the light of the group response. The object is to discover the degree of consensus among expert opinion on the specific problem.

The doubts and criticisms are obvious. Indeed, the method has been widely attacked. The "learning syndrome" may be comfort-

ing for policy makers and decision takers who can discover reassurance in the consensus of experts. But 300,000 learnings can be wrong! And the weakness of the device is that it may give a spurious objectivity and mathematical precision to what is nothing more nor less than opinion and judgment. The value of this book is that it does not build such issues. Indeed, section four, devoted to an evaluation of the method, is in this sense the most important, though it is hardly reassuring. The book suggests that Delphi may be a device for engineering consensus, and not just discovering it, gains some support from studies of the effects of feedback. In one experiment, the monitors fed back a false mean after the first round. As a result, in the second round, a number of panel members shifted their position away from the true mean. In another experiment, the most dogmatic were most influenced by feedback—a reflection perhaps of their uncertainty and need for authoritative reassurance. Those familiar with the Asch experiment and the mechanisms of group dynamics will not, of course, be surprised at such results.

In the long run the method can only be judged against other ways of estimating the future. The inherent difficulty in evaluating its effectiveness is that there are self-fulfilling as well as self-negating prophecies. The gloomy predictions of the Club of Rome are intended to avert catastrophe by reactions to its forecasts.

Stephen Cotgrove

Getting back to basics

Handbook of Engineering Fundamentals edited by Ovid W. Eshbach and Mott Souders
Wiley, £16.20
ISBN 0 471 24553 4

Eshbach published his first version of this handbook in 1936; since then it has been widely used by students and practising engineers. Its commercial success led to a new edition in 1952 and now it is republished in a slightly different form under new editorship. The aim is to present between one set of covers the basics of all the engineering branches together with data, formulae, properties and other facts needed in application.

The third edition contains additions to the sections on mathematical and physical tables, mathematics, radiation, light and acous-

tics. There are new sections on elementary mathematics, statics, kinematics, from that which does, for example, design criteria; if he had then a useful, updated handbook could have resulted. As it turns out he has neglected several developments which are fundamental to engineering, such as plasticity theory, while retaining some outdated notions of design and testing methods. Those who fret about units will be worried that the SI system has been overlooked throughout in presenting data. If these objections had been overcome the book could have been compulsively read by many engineering students at considerable financial savings over the period of a conventional course. It has not, and the most likely readers will be practising engineers who might delude themselves in thinking that they have time to get back to fundamentals or those who have a need for a tabular data which is not available to them.

R. K. Penny

Following the concrete code

Design of Prestressed Concrete by R. K. Penny and E. W. Hogg
Blackie, £8.00
ISBN 0 903384 09 4

Following publication of the British Standard Code of Practice CP110, *The Structural Use of Concrete*, many books dealing primarily with reinforced concrete were published, even though the latest theories apply to both reinforced and prestressed concrete. It was only a matter of time before a book dealing solely with the application of CP110 to prestressed concrete appeared.

The authors of this book wisely omit routine descriptive matters and concentrate on the general principles of CP110 and limit theory is all that is required. By way of introduction to the design procedures, analyses for both serviceability and ultimate limit states are covered. A section on losses of prestress includes some useful tables whereby approximate assessments of losses may be made. In calculating the ultimate bending strength of a member, the authors concentrate in their examples on an approximate simplified method (Magnus's) graphical method is not described. Sections dealing with the selection of tendon profiles are well explained with clear diagrams. Theoretical stress strengths are included and although the recipe for cracked sections is not derived, its use is

adequately covered (apart from a rather crucial printing error) and it can be shown that by extending the technique, the influence of the maximum shear forces are unlikely to be the critical cases.

There follows a good, compact chapter on composite construction including the effect of differential shrinkage. The final chapter deals with the analysis of indeterminate structures. A selection of techniques to ascertain secondary moments are applied to a portal frame and the concepts of cable forces are covered. It concludes with sections dealing with tendon profiles and moment redistribution, but the authors chose not to take the opportunity to embody various combinations of minimum and maximum loads discussed in earlier sections in the examples of bending moment envelopes.

The book is easy to follow and is directed towards the student, young practising engineer, experienced designers will find parts useful in the implementation of CP110.

John Ash

Engineering from Oxford

Foundation Design Simply Explained

John Faber and Brian Johnson

This popular textbook has been brought completely up to date, and is in line with the latest Codes of Practice—CP2004: 1972 for Foundations and CP110: 1972 for Structural Concrete. The new edition covers the principles of foundation design, the behaviour and theory of rocks and soils, and the methods of carrying out investigations in the field and tests in the laboratory. S.I. units are used throughout. Second edition £3.95

Structural Mechanics

Andrew C. Palmer

An engineer concerned with structures finds himself confronted with questions about their mechanical behaviour. The questions might be: How much load can be applied to a certain bridge before it collapses? Is there a risk that the framework will buckle? How should it be redesigned to carry a greater load or to cover a wider span? This book sets out to explain and develop methods which an engineer can apply to problems of this kind at a level appropriate for first- and second-year undergraduate students. £6 paper covers £3 forthcoming Oxford Engineering Science Texts.

Lectures on Electromagnetic Theory

A Short Course for Engineers

L. Solymar

This text is designed to cover concisely all branches of electromagnetic theory from electrostatics to relativity, with emphasis on their interrelations. Proficiency in vector analysis is assumed but the amount of mathematics is kept to a minimum. £11 paper covers £5.50 forthcoming

Engineering Design Guides

A series of booklets, sponsored by the Design Council, the British Standards Institution, and the Council of Engineering Institutions, giving practical advice on the best modern procedures. Write for full particulars.

Inspection copies of these books are available to lecturers wishing to consider them for adoption as required texts. Please write, with details of the course and the number of students involved, to the University Promotion Section, Oxford University Press (THES), Ely House, 37 Dover Street, London W1X 4AH.

SURREY UNIVERSITY PRESS

Design of Precast Concrete
R. Hartland
160pp £4.00

Design of Prestressed Concrete
S. C. C. Bate and E. W. Bennett
144pp £4.00

Limit State Design of Reinforced Concrete Structures
D. Beckett
144pp £4.50

Linear Analysis of Thin-Walled Elastic Structures
T. H. G. Megson
240pp £5.00

Concrete Bridges
D. Beckett
240pp £4.50

Timber
D. Beckett and P. Marsh
224pp £4.50

Soil Mechanics in Foundation Engineering, Vol 1
Z. W. Wilson and K. Starzewski
304pp £5.00

Soil Mechanics in Foundation Engineering, Vol 2
Z. W. Wilson and K. Starzewski
320pp £5.50

For further information on these and our other titles please write to: Surrey University Press, 450 Edgware Road, London W2 1EG.

John Ash

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plus a special feature on
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An account of the more important branches of helicopter theory.
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Introduces an advanced topic in fluid mechanics.
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G. Carter and W. A. Grant
A simplified but rigorous mathematical treatment.
Publication May Cloth £9.50 Paper £5.95

For further information on these and our other titles please write to: Surrey University Press, 450 Edgware Road, London W2 1EG.

John Ash

Edward Arnold
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John Wiley & Sons Ltd

ENGINEERING MATHEMATICS

by A. C. Balpal, L. Mustoe and D. Walker, all of Loughborough University of Technology. In collaboration with W. T. Martin of Massachusetts Institute of Technology, Cambridge, USA.
The book is designed to be a self-contained text for students of engineering. It covers the subject of Engineering Mathematics and includes a large number of worked examples and exercises.
2nd edition April 1974 £8.95, £2.75 (paper)

TRANSPORT PHENOMENA

by W. J. Beale, Van Den Bergh & Jurgens, Rotterdam, and K. M. K. Muttai, Verein Deutscher Oelabrieren, Mannheim.
An advanced textbook in units which presents in an understandable way, the fundamental aspects as well as the applications of the theory of transport phenomena.
2nd edition April 1975 £8.95, £2.75 (paper)

A PRACTICAL GUIDE TO ALGOL 68

by F. G. Pagan, Memorial University of Newfoundland.
This book is an informal, practical and comprehensive primer for the Algol 68 programming language.
March 1976 £7.50, £1.00 (paper)

PROGRAMS AND MACHINES: An Introduction to the Theory of Computation
by R. Bird, University of Reading.
The subject is developed from programming concepts rather than produced as an abstract mathematical theory. A basic knowledge of computer programming is assumed, and the selection and discussion of topics is based upon this approach.
2nd edition In Press approx. £7.50, £1.00 (paper)

A PRACTICAL APPROACH TO COMPUTING
by W. V. Arns, J. E. Baker, R. M. Pengelly, The Open University.
This book takes the student who has an elementary knowledge of programming and introduces him to the basic concepts behind making effective use of a computer system.
approx. 270 pages In Press approx. £2.75, £1.00 (paper)

John Wiley and Sons Ltd, Baffins Lane, Chichester, Sussex PO19 1UD

LORD WOLFENDEN his memoirs Turning Points

'Terse and admirably-written volume of memoirs' Lord Boyle, *Guardian*

Illustrated £4.00

BODLEY HEAD

department of German studies at the University of Lancaster ; Stephen Hayer is lecturer in charge of engineering design at the University of Birmingham ; Emrys Jones is in the department of geography at the London School of Economics ; Douglas Lewin is the author of Logical Design of Switching Circuits and Theory and Design of Digital Computers ; he is professor of digital processes at the University ; F. A. Matthews is professor of electrical and electronic engineering at the University of Leeds ; Yakup Paker, at the Polytechnic of Central London, is researching in multi-micro processor networks and real time computing ; R. K. Penny is author of Design for Creep and professor of mechanical engineering at the University of Liverpool ; Frank Stacey, professor of local government at the University of Nottingham, is author of Government of Modern Britain and British Government 1867-75 ; Ten Years of Storm ; J. C. R. Turner is university lecturer in chemical engineering and fellow of Pembroke College Cambridge ; Glynnie Wickham is professor of drama at the University of Bristol and author of The Medieval Theatre.

Colleges of Education continued

MANCHESTER

ROYAL NORTHUMBRIAN COLLEGE OF EDUCATION

A LECTURER for appointment to the School of History and English Literature. The post carries a well qualified candidate possessing a degree in History or English Literature. The salary is £5,500 per annum. Applications should be sent to the Registrar, The College of Education, 100, Oxford Road, Manchester M13 9PL. Closing date: 15th May 1976.

Librarians

LIVERPOOL

THE POLYTECHNIC

ASSISTANT LIBRARIAN

The post carries a well qualified candidate possessing a degree in Library Studies or a related subject. The salary is £5,500 per annum. Applications should be sent to the Registrar, The Polytechnic, 100, Oxford Road, Liverpool L69 3GB. Closing date: 15th May 1976.

Colleges of Higher Education

DONCASTER

LOCAL AUTHORITY

HEAD OF DEPARTMENT

The post carries a well qualified candidate possessing a degree in Education or a related subject. The salary is £5,500 per annum. Applications should be sent to the Registrar, The Local Authority, 100, Oxford Road, Doncaster DN1 1BA. Closing date: 15th May 1976.

HEAD OF DEPARTMENT

The post carries a well qualified candidate possessing a degree in Education or a related subject. The salary is £5,500 per annum. Applications should be sent to the Registrar, The Local Authority, 100, Oxford Road, Doncaster DN1 1BA. Closing date: 15th May 1976.

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Appointments of Lecturers Grade II and Administrative Assistant to the Registrar

Applications are invited from well qualified candidates for the following appointments in the College of Ripon and York St John. The College provides undergraduate and postgraduate students for a wide range of disciplines. About one third of each year's intake are intending teachers and these all departments are to some extent involved in teacher education. Experience in this field is an advantage. All appointments are for 1st September 1976. Further details and application forms may be obtained from the Principal, The College of Ripon and York St John, Lead House, York YO3 7BA, to whom completed application forms should be sent to arrive not later than 15th May 1976.

(a) ADMINISTRATIVE ASSISTANT—with administrative experience preferably in a college, polytechnic or university; the person appointed will assist the Registrar in the various areas of his work and particularly in the admission of students. There will be an opportunity to contribute to the teaching of the College and applicants should state their subject area, qualifications and experience.

(b) LECTURER IN DESIGN AND TECHNOLOGY—the post offers exciting prospects for a person with wide interests and experience in design and technology with particular reference to teaching in schools to join a newly established section about to move into new accommodation.

(c) LECTURER IN ENGLISH LITERATURE AND LINGUISTICS—qualifications in both areas essential. The post carries a salary of £5,500 per annum. Secondary school experience will be an added strength.

(d) LECTURER IN HISTORY—with a special interest in Modern and Contemporary European and World History and with a genuine commitment to History in Education.

(e) TEMPORARY LECTURER IN SPECIAL AND REMEDIAL EDUCATION—the post is for the academic year 1976/77. Appointment should have had successful experience of work with the specially handicapped or in a special school and should have a formal qualification in special or remedial education.

Bedfordshire Education Service

BEDFORD COLLEGE of Higher Education

Applications are invited for appointment to the following posts from 1st September, 1976.

1.2. LECTURER II IN BIOMECHANICS/KINESIOLOGY. The appointed person will be responsible for Biomechanics/Kinesiology in B.Ed. and Certificate courses for Human Movement specialists.

2.2. LECTURER II/SENIOR LECTURER IN AESTHETICS AND DANCE. The post carries a salary of £5,500 per annum. The person appointed will play a leading part in the teaching of the History of Dance and contribute to the development of programmes of theatrical study in Aesthetics in degree courses and assist in the teaching of practical dance courses.

3.2. LECTURER II/SENIOR LECTURER IN APPLIED SOCIAL STUDIES. The post carries a salary of £5,500 per annum. The person appointed should be professionally qualified and experienced in planning and teaching of courses. This is a senior post requiring someone of imagination and initiative to play a leading role in course development within the new and expanding School of Social Studies.

Further details and application forms are available from the Director, Bedford College of Higher Education, 37 Lansdowne Road, Bedford, MK40 2BZ, to be returned not later than 5th May, 1976.

CITY OF LIVERPOOL

COLLEGE OF HIGHER EDUCATION

(Formerly C. P. Mott College and Hotel Wormald College) Principal: Dr. Brian Cox.

Applications are invited for the following posts:

DIRECTOR OF MUSIC
The Director will be responsible for the organisation and development of Music courses in the College (including the B.A. General and B.Ed. Honours degree courses) and for stimulating the musical life of the College.

The post carries a salary of £5,500 per annum. Applications should be sent to the Registrar, The College of Higher Education, 100, Oxford Road, Liverpool L69 3GB. Closing date: 15th May 1976.

MENTAL HANDICAP/PSYCHOLOGY
A Lecturer (II) in the School of Applied Psychological Studies, to assist in the teaching of Psychology and in the supervision of research. The post carries a salary of £5,500 per annum. Applications should be sent to the Registrar, The College of Higher Education, 100, Oxford Road, Liverpool L69 3GB. Closing date: 15th May 1976.

WORKSHOP CRAFTS AND DESIGN
A Lecturer (II) in the School of Applied Psychological Studies, to assist in the teaching of Workshop Crafts and Design. The post carries a salary of £5,500 per annum. Applications should be sent to the Registrar, The College of Higher Education, 100, Oxford Road, Liverpool L69 3GB. Closing date: 15th May 1976.

Further details and application forms are available from the Registrar, The College of Higher Education, 100, Oxford Road, Liverpool L69 3GB. Closing date: 15th May 1976.

CITY OF LIVERPOOL
COLLEGE OF HIGHER EDUCATION
LIVERPOOL ROAD, PRESCOT, MERseyside L34 9JH
Closing date: Monday, 10th May 1976

Nene College, Northampton

Applications are invited from men or women for the following posts available as from 1 September, 1976.

SENIOR LECTURER IN GRAPHIC DESIGN

School of Art & Design

With specific responsibility for Graphic Studies throughout the School and administrative and co-ordinating responsibilities as Grouped Course Leader for full-time vocational courses in Graphic Design, Fashion, 3D Technicians.

Applicants should hold a good degree or relevant professional qualification in Graphic Design, be a practising artist/designer and have college teaching and organisational experience.

LECTURER II IN MATHEMATICS & STATISTICS/COMPUTING

School of Mathematics & Management

To join a team of lecturers offering an extensive range of courses from 'GCE' A level to B.A./B.Sc. Combined Studies of the University of Leicester.

Initially, the duties will relate to G.C.S. 'A' level, O.N.C. II, N.O. and professional courses with an opportunity for some degree level work.

LECTURER II IN SOCIOLOGY

School of Education & Social Science

Applicants should be qualified to teach Sociology in the B.Ed. and B.A./B.Sc. Combined Studies of the University of Leicester. The School also includes a team of lecturers associated with professional Social Worker in-service courses.

LECTURER II IN MECHANICAL ENGINEERING SUBJECTS

School of Technology

Required for a period of one academic year, commencing 1 September, 1976, to teach Mechanical Engineering Subjects in O.N.C./O.N.D. and C. & G. Mechanical Engineering Technicians courses.

LECTURER I IN EARTH SCIENCE

School of Sciences

Applicants should be qualified to teach Mineralogy and Petrology to degree level. The person appointed will be joining a small team developing these subjects within Combined Studies degree programmes and at Certificate of Education level.

Salary: Senior Lecturer £5,343-£6,707
Lecturer II £3,891-£5,035
Lecturer I £2,791-£4,519

Forms of application and further particulars may be obtained from Dr. Eric Ogilvie, Director, Nene College, Mortimer Park, Northampton NN2 7AL. Completed application forms should be returned by 5 May, 1976.

Administration

COUNCIL FOR NATIONAL ACADEMIC AWARDS

Assistant Chief Officer

The Council has recently reviewed the structure of its senior staffing establishment and in view of the continuing expansion and diversification of its work, has established the new high level post of Assistant Chief Officer. This post and that of the Registrar will be the most senior posts after the Chief Officer in the Council's organisation. While the Registrar will be primarily responsible for the activities of the Council, the Assistant Chief Officer will be responsible for the overall coordination of the activities of the Council.

The Assistant Chief Officer will be responsible for the overall coordination of the activities of the Council. The post carries a salary of £5,500 per annum. Applications should be sent to the Registrar, The Council for National Academic Awards, 34/35A Gray's Inn Road, London WC1N 3BP. Closing date: 24th May, 1976.

Further particulars may be obtained from the Secretary, Council for National Academic Awards, 34/35A Gray's Inn Road, London WC1N 3BP. Closing date: 24th May, 1976.

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Applications should be sent to the Registrar, The Council for National Academic Awards, 34/35A Gray's Inn Road, London WC1N 3BP. Closing date: 24th May, 1976.

General Vacancies

Applications are invited from men or women for the following posts available as from 1 September, 1976.

SCHOOLS COUNCIL

PROJECT CO-DIRECTOR and TWO RESEARCH FELLOWS

RESEARCH INTO THE IMPACT AND TAKE-UP OF SCHOOLS COUNCIL PROJECTS

Applications are invited for the three research posts in the project team, which will begin work in September 1976 at the University of Sussex. The appointment will be for 3 years.

The main research task will be to undertake a survey of schools in England and Wales. The team will be able to build upon some survey data already available and design studies at the primary and secondary levels. The project will work closely with the Council's research consultant who will be co-director.

The Project Co-Director—Senior Research Fellow. Applicants should have a broad experience in schools and research and the ability both to direct the day-to-day activities of the project and to produce project reports. The salary will be in the region of £6,200.

The Research Fellows should also combine school and research experience. The appointment will be made in the range £3,500-£5,010.

Subject to the agreement of present employer, secondment terms can be arranged.

Application forms and further details of the project may be obtained from Mr A. Marshall, Schools Council, 160 Great Portland Street, London W1N 6LL.

Tel: 01-580 0352 Ext. 351

Closing date for receipt of applications is Wednesday 12 May 1976.

Further particulars may be obtained from the Secretary, Schools Council, 160 Great Portland Street, London W1N 6LL. Closing date: 12 May, 1976.

Applications should be sent to the Registrar, The Schools Council, 160 Great Portland Street, London W1N 6LL. Closing date: 12 May, 1976.

Further particulars may be obtained from the Secretary, Schools Council, 160 Great Portland Street, London W1N 6LL. Closing date: 12 May, 1976.

Applications should be sent to the Registrar, The Schools Council, 160 Great Portland Street, London W1N 6LL. Closing date: 12 May, 1976.

Further particulars may be obtained from the Secretary, Schools Council, 160 Great Portland Street, London W1N 6LL. Closing date: 12 May, 1976.

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Colleges and Departments

Applications are invited from men or women for the following posts available as from 1 September, 1976.

MANCHESTER

ROYAL NORTHUMBRIAN COLLEGE OF EDUCATION

A LECTURER for appointment to the School of History and English Literature. The post carries a well qualified candidate possessing a degree in History or English Literature. The salary is £5,500 per annum. Applications should be sent to the Registrar, The College of Education, 100, Oxford Road, Manchester M13 9PL. Closing date: 15th May 1976.

Further particulars may be obtained from the Registrar, The College of Education, 100, Oxford Road, Manchester M13 9PL. Closing date: 15th May 1976.

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